

IN THE CLAIMS

1-65. (canceled)

66. (new) A method of detecting activities of a plurality of different proteins in a cell, comprising:

introducing reporter molecules into the cell;
releasing the reporter molecules from the cell; and

detecting the reporter molecules to detect the activities of the plurality of different proteins in the cell.

67. (new) The method of claim 66, wherein the reporter molecules comprise at least one member selected from the group consisting of unaltered reporter molecules and altered reporter molecules.

68. (new) The method of claim 66, further comprising recording and tabulating the activities of the plurality of proteins.

69. (new) The method of claim 66, further comprising exposing the cell to an external stimulus.

70. (new) The method of claim 69, wherein the external stimulus comprises a compound.

71. (new) The method of claim 70, wherein the compound is at least one member selected from the group consisting of a small molecule, a nucleic acid, and a polypeptide.

72. (new) The method of claim 70, further comprising recording and tabulating the activities of the plurality of proteins, and further comprising compiling a map of cellular responses to the compound.

73. (new) The method of claim 66, wherein an auxiliary molecule that enters the cell is attached to at least one reporter molecule.

74. (new) The method of claim 73, wherein the auxiliary molecule is selected from the group consisting of a peptide and a peptide analog.
75. (new) The method of claim 66, wherein at least one reporter molecule comprises a label.
76. (new) The method of claim 75, wherein the label is selected from the group consisting of a fluorescent group, a stable isotope, a radioactive isotope, and biotin.
77. (new) The method of claim 75, wherein a first reporter molecule comprises a first label, and a second reporter molecule comprises a second label that is different than the first label.
78. (new) The method of claim 66, further comprising stopping reactions between the reporter molecules and the proteins after releasing the reporter molecules.
79. (new) The method of claim 78, wherein the time between releasing the reporter molecules and stopping the reactions is less than 1 second.
80. (new) The method of claim 79, wherein the time is less than 33 milliseconds.
81. (new) The method of claim 80, wherein the time is less than 10 microseconds.
82. (new) The method of claim 66, wherein detecting further comprises separating the reporter molecules using at least one technique selected from the group consisting of electrophoresis, two-dimensional gel electrophoresis, microchromatography and flow cytometry.
83. (new) The method of claim 66, wherein detecting comprises using at least one technique selected from the group consisting of mass spectroscopy, fluorescence polarization spectroscopy, flow cytometry, yeast two-hybrid assay, morphological analysis, intercellular ion indicator activity, protein localization and affinity arrays.

84. (new) The method of claim 66, wherein detecting comprises detecting the reporter molecules on a microfluidics device.
85. (new) The method of claim 66, wherein detecting further comprises separating the reporter molecules on a microfluidics device.
86. (new) The method of claim 66, wherein the plurality of different proteins comprises at least three proteins.
87. (new) The method of claim 66, wherein the plurality of different proteins comprises at least four proteins.
88. (new) The method of claim 66, wherein the plurality of different proteins comprises at least five proteins.
89. (new) The method of claim 66, wherein the plurality of different proteins comprises at least six proteins.
90. (new) The method of claim 66, wherein the plurality of different proteins comprises at least ten proteins.
91. (new) The method of claim 66, wherein the cell comprises a portion of a cell.
92. (new) The method of claim 66, wherein the introducing comprises introducing at least one of the reporter molecules at a concentration of at most 10 micromolar.
93. (new) The method of claim 66, wherein the introducing comprises introducing at least one of the reporter molecules at a concentration of at most 1 micromolar.
94. (new) The method of claim 66, wherein the introducing comprises introducing at least one of the reporter molecules at a concentration of at most 100 nanomolar.

95. (new) The method of claim 66, further comprising diminishing or terminating a chemical reaction involving the reporter molecules using scavengers or inhibitors.

96. (new) The method of claim 66, further comprising labeling the reporter molecules and stopping a chemical reaction involving the reporter molecules by introducing an unlabeled reporter molecule.

97. (new) The method of claim 66, further comprising stopping a chemical reaction involving the reporter molecules before releasing the reporter molecules and unaltered reporter molecules from the cell.

98. (new) The method of claim 95, wherein the diminishing or terminating comprises photochemically introducing the scavenger or inhibitor from a caged scavenger or caged inhibitor.

99. (new) The method of claim 66, wherein detecting comprises quantifying the activities of at least three proteins.

100. (new) The method of claim 66, wherein detecting comprises quantifying the activities of at least ten proteins.

101. (new) The method of claim 66, wherein the cell has a volume of 100 p1 or less.